

Examiner
Signature

Date Considered

7/17/00

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known					
		Application Number	09/490,643				
		Filing Date	January 24, 2000				
		First Named Inventor	Jeremy Minshull				
		Group Art Unit					
		Examiner Name					
		Attorney Docket Number	02-020622US				



FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No.	Foreign Patent Document		Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
ew	AX	WO	92/18645		Henco et al.	10-29-1992		
	AY	WO	97/44361		Recombinant Biocatalysis Inc.	11-27-1997		
	AZ	WO	97/48416		Recombinant Biocatalysis, Inc.	12-24-1997		
	BA	WO	97/48717		Recombinant Biocatalysis Inc	12-24-1997		
	BB	WO	97/48794		Recombinant Biocatalysis Inc	12-24-1997		
	BC	WO	98/00826		Recombinant Biocatalysis Inc	01-08-1998		
	BD	WO	98/13485		Maxygen, Inc.	04-02-1998		
	BE	WO	98/13487		Maxygen, Inc.	04-02-1998		
	BF	WO	98/24799		Diversa Corp.	06-11-1998		
	BG	WO	98/27230		Maxygen, Inc.	06-25-1998		
	BH	WO	98/28416		Novo Nordisk A/S	07-02-1998		
	BI	WO	98/31837		Maxygen, Inc.	07-23-1998		
	BJ	WO	98/36080		Maxygen, Inc.	08-20-1998		
	BK	WO	98/48034		Diversa Corp.	10-29-1998		
	BL	WO	98/58085		Diversa Corp.	12-23-1998		
	BM	WO	99/07837		Diversa Corp.	02-19-1999		
	BN	WO	99/08539		Diversa Corp.	02-25-1999		
	BO	WO	99/10472		Diversa Corp.	03-04-1999		
	BP	WO	99/10539		Diversa Corp.	03-04-1999		
	BQ	WO	99/19518		Diversa Corp.	04-22-1999		
	BR	EP	0911396A2		Maxygen, Inc.	04-28-1999		
	BS	WO	99/21979		Maxygen, Inc.	05-06-1999		
	BT	EP	0911396A3		Maxygen, Inc.	05-06-1999		

Examiner Signature	ewen	Date Considered	7/17/00
--------------------	------	-----------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

APR 10 2000



Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known
				Application Number Filing Date First Named Inventor Group Art Unit Examiner Name Attorney Docket Number
				09/490,643 January 24, 2000 Jeremy Minshull 02-020622US

QW	BU	WO	99/23107	Maxygen, Inc.	05-14-1999		
	BV	WO	99/23236	Diversa Corp.	05-14-1999		
	BW	EP	0934999A1	Maxygen, Inc.	08-11-1999		
	BX	WO	99/41369	Maxygen, Inc.	08-19-1999		
	BY	WO	99/41383	Maxygen, Inc.	08-19-1999		
	BZ	WO	99/41402	Maxygen, Inc.	08-19-1999		
	CA	WO	99/45154	Diversa Corp.	09-10-1999		
	CB	WO	99/57128	Maxygen, Inc.	11-11-1999		
	CC	WO	99/65927	Maxygen, Inc.	12-23-1999		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue numbers(s), publisher, city and/or country where published.	T
W	CD	Christians, F.C., et al., (1999) Directed evolution of thymidine kinase for AZT phosphorylation using DNA family shuffling. <i>Nature Biotechnology</i> 17:259-264.	
	CE	Fuller et al., (1994) "Genetic Algorithms and Recursive Ensemble Mutagenesis in Protein Engineering" Complexity Int'l 1994, printed from website http://www.csu.edu.au/ci/voll/fueller/REM.html	
	CF	Lowman, H.B. et al., (1993) "Affinity Maturation of Human Growth Hormone by Monovalent Phage Display" <i>J. Mol. Biol.</i> 234:654-578.	
	CG	Minshull, J., Stemmer, W.P.C. (1999) Protein evolution by molecular breeding. <i>Current Opinion in Chemical Biology</i> 3:284-290.	
	CH	Patten, P.A. et al., (1997) "Application of DNA Shuffling to Pharmaceuticals and Vaccines." <i>Current Opinion in Biotechnology</i> 8:724-733.	
	CI	Rapley (1994) "Enhancing PCR Amplification and Sequencing Using DNA-Binding Proteins" Molecular Biotechnology 2:295-298.	
	CJ	Robles et al. (1993) "Hydrophathy and Molar volume Constraints on Combinatorial mutants of the Photosynthetic Reaction Center" <i>J. Mol. Biol.</i> 232:242-252.	
W	CK	Youvan et al. (1992) "Recursive Ensemble Mutagenesis: A Combinatorial Technique for Protein Engineering" from Parallel Problem Solving from Nature, 2, Manner eds., pp. 401-410.	

Examiner Signature	Ewen Minshull	Date Considered	7/17/00
--------------------	---------------	-----------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.